

In the Claims

Please cancel claims 1-19 in favor of new claims as follows.

Per rule 124
Sub C1
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~~31~~ 20. Plastic-based composite product comprising a plastic mass in which particles are homogeneously embedded, which particles have tensile strength in a first particle direction, said product having a chosen principal product direction, wherein the particles comprise:

small particles being elongated plates of fibres and having a random orientation and a length of 0.2-2 mm; and

large particles dominantly orientated such that their first particle direction is in said chosen principal product direction, said large particles having a length in the first particle direction of about 2-6 mm.

Sub D2

~~32~~ 21. Product as claimed in claim ~~20~~³¹, wherein the large particles are plate-shaped having a main plane, the first particle direction extending in said main plane.

~~33~~ 22. Product as claimed in claim ~~21~~³², wherein the plates consist of mica.

Sub D3

~~34~~ 23. Product as claimed in claim ~~20~~³¹, wherein the particles are elongated.

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~~24.~~ Product as claimed in claim ~~20~~³¹, wherein the large particles are fibres wherein the first particle direction is the longitudinal direction of each fibre.

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~~25.~~ Product as claimed in claim ~~20~~³¹, wherein the particles include particles of wood material and the plastic mass is a thermoplastic polyolefin, wherein said wood material particles have a transverse dimension perpendicular to said first particle direction, the ratio between the length in the first particle direction and said transverse dimension amounting to a minimum of 4, wherein the wood particles are present in the plastic mass in a quantity of 40-80% by mass, and wherein the product complies with the following requirements relating to mechanical properties in

- bending strength in the first particle direction: at least 8 MPa
- bending modulus in the first particle direction: at least 3 GPa
- tensile strength in the first particle direction: at least 6 MPa
- tensile stress modulus in first particle direction: at least 3 GPa
- tensile strength transversely of first particle direction: at least 0.3 MPa
- tensile stress modulus transversely of the first particle direction: at least 1 GPa.

~~37~~
~~26.~~ Product as claimed in claim ~~25~~³⁶, wherein the wood particles consist of a material selected from the group consisting of fir, spruce, birch and poplar.

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~~27. Product as claimed in claim ³⁶25, wherein the particles include particles of non-wood material present in the plastic mass in a quantity of 3-25% by mass.~~

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~~28. Product as claimed in claim ³⁸27, wherein said particles of non-wood material are made of an inorganic silicate polymer.~~

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29. Product as claimed in claim ³⁸27, wherein the particles include glass fibres with a length of 4-5 mm and a diameter of 0.013 mm and a ratio of length to diameter in the range of 300-400.

B7 Cont'd Sub C2
⁴¹
30. Product as claimed in claim ³⁹28, wherein the particles include fibres of natural cellulose polymer.

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⁴²
31. Product as claimed in claim ³⁸25, wherein the polymer material is a material selected from the group consisting of polypropylene, polystyrene or polyacrylate.

Subp 57

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Product as claimed in claim 20, further comprising an additive with a desired influence on chosen properties of the product and selected from the group of additives consisting of the following classes:

- influencers of adhesion between particles with tensile strength and matrix polymer (class H),
- influencers of the properties of the surface of the product, particularly in respect of coatings or adhesives for applying in sandwich structures (class O),
- influencers of the pyrogenic properties (class P),
- influencers of the particle durability (class D),
- blowing means for obtaining a foamed structure (class B), in the case of an unintended, sufficiently great temperature increase.

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Product as claimed in claim 20, comprising at least one colouring agent or pigment.

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Product according to claims 20, wherein the product forms a first plate-shaped layer, a skin layer being adhered to at least one of the sides of the plate-shaped layer.

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Product as claimed in claim 20, wherein the product is elongated and the chosen principal product direction is the longitudinal direction of the product.

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~~37~~ 36. Product as claimed in claim ~~25~~, wherein the ratio lies in the range of 6-80.

³⁹
~~37~~ 37. Product as claimed in claim ~~25~~, wherein the wood particles are present in the plastic mass in a quantity of 50-70% by mass.

⁴¹
~~38~~ 38. Product as claimed in claim ~~30~~, wherein the fibres of natural cellulose polymer are made from a material selected from the group consisting of flax, jute, hemp, sisal, coconut, bamboo and miscanthus.

⁵⁰
~~39~~ 39. Laminated product comprising a plurality of products according to claim ~~20~~, wherein the products are plate shaped and have main planes, wherein the plate-shaped products are adhered to one another.--